

REMARKS

In the Office Action, the Examiner allowed claim 11 if rewritten in independent form including all of the limitations of the base claim and any intervening claims; and rejected claims 1-10, 12, and 13 under 35 U.S.C. 103(a) as being unpatentable over Tang et al. (U.S. Patent No. 6,298,370; hereinafter “Tang”) in view of Warwick et al. (U.S. Patent No. 6,460,151; hereinafter “Warwick”).

No amendments have been made. Claims 1-13 are pending in the application.

Claim Rejections Under 35 USC §103

Claim 1 is currently rejected by the Examiner under 35 USC §103(a) as unpatentable over Tang in view of Warwick.

The Examiner has rejected claim 1, indicating that Tang teaches all of the elements of claim 1 save for the additional driver means interposed between the operating system and the installed driver, where the additional driver means is configured to interface directly with at least the operating system. The Examiner further indicates that Warwick supplies this missing element and that it would have been obvious to make the combination, one of ordinary skill in the relevant arts being motivated to allow WDM-enabled drivers to implement WMI, and also acts as an interface to the WDM provider that resides in the user mode.

Applicants respectfully disagree with the Examiners conclusions as to unpatentability for at least the following reasons.

Neither Tang nor Warwick nor the combination of them teaches or suggests providing a driving system having additional driver means interposed between an Operating System and a legacy driver and the driving system configured for driving the original functionality provided by the first driver and enabling additional functionality beyond that provided by the first driver, as required by claim 1.

Tang’s teachings are instead limited to modifications at the Operating System (OS) level. In more detail, Tang teaches extending the OS functionality to enable additional functionality of the hardware. See, for example, FIG. 125, and col. 35, line 64, where Tang discloses that “Direct DSP extends Direct X at the API level. As illustrated in FIG. 125, the OS layer is modified by added functionality in the form of Direct DSP

(block 1810). The OS level further determines whether the application requires the original functionality (yes path in block 12520 vs. the extended functionality (“no” path)).

Further, claim 1 requires that the “further hardware device” have functionality differing from said predetermined functionality and unsupported by said operating system. As a result of the modifications at the API level described above, Tang’s operating system supports the additional functionality.

Warwick (System and Method for Predicting Storage Device Failures) teaches a WMI extensions to WDM provider 70 (e.g., Fig. 2A) interposed between the Operating System and various drivers (e.g., Fig. 2B elements 80-82 and 70-72) but doesn’t teach or suggest a device driving system enabling “operation of at least one further hardware device of functionality differing from said predetermined functionality and unsupported by said operating system”. In further detail, the WMI provided 70 in Warwick merely allows devices to make management information available to management applications 62 by providing a pipeline between user mode 60 and kernel mode 76; hence it is not a driver which enables an additional previously unsupported hardware device. That is, the WMI provided 70 (via user mode driver 72 and kernel mode driver 74) simply allows messages to pass between user mode 60 and kernel mode 76 without any kind of modification. (See column 6, lines 25-36) Since Warwick fails to teach modification of the data stream (e.g., messages), there is no teaching or suggestion that the WMI provided 70 should function to enable operation different from the predetermined functionality of the various drivers.

As noted above, applicants believe that the combination fails to teach or suggest all of the limitations of claim 1. Further, applicants respectfully submit that one of skill in the art would not be motivated to combine the prior art references. Tang includes an operating system already modified to support additional functionality. The interposed WMI provided 70 in Warwick is merely configured for providing a pipeline, not one capable of modifying data. Hence, there would be no motivation to combine the two references to generate a driver configured to support a previously unsupported hardware device. Even if combined, there would be no impetus to move the extended functionality from the operating system to the WMI provided 70 that merely plays a pipeline function.

For similar reasons, Tang and Warwick fail to teach or suggest the limitations of

independent claims 8 and 9. That is, since Tang teaches that the additional functionality is provided in the operating system modifications, they fail to teach that the supplemental device driver provides functionality not envisaged by the operating system provider.

For the reasons cited above, applicants submit that the claims are allowable since they describe structure or methods that are distinguishable over the prior art. That is, Tang in combination with Warwick fails to teach or suggest all of the elements of claims 1, 8, and 9. Applicants further submit that the dependant claims are allowable at least due to their dependencies from an allowable base claim. The dependant claims have additional limitations distinguishable from the art of record. In light of the above dependencies, applicants submit that further arguments as to the dependant claims are not necessary at this time.

Conclusion

Accordingly, it is submitted that all issues in the Non Final Office Action have been addressed, and withdrawal of the rejections is respectfully requested. Applicants believe that this application is in condition for allowance, and respectfully request a prompt passage to issuance. If the Examiner believes that a telephone conference would expedite the prosecution of this application, he is invited to contact the undersigned at the telephone number set out below.

If any fees are due in connection with the filing of this Response, the Commissioner is authorized to deduct such fees from the undersigned's Deposit Account No. 503302 (Order No. **CLIP014US**).

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Respectfully submitted,

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